RIS-RECOVER

01 January 2018 – 31 March 2021

Objective

Due to their quantity and composition, mining tailings and metallurgical heaps can pose a substantial risk to the environment, while on the other hand representing valuable sources of secondary raw materials, including critical raw materials.

South East Europe, including Macedonia, is rich in deposits of secondary raw materials in the form of mining tailings of polymetallic ores and heaps from the metallurgical industry (e.g. landfills of metallurgical slags) and as such represent a relatively undiscovered potential for the European raw materials market sector.

The RIS-RECOVER project activities are based on a quintuple innovation helix approach merging industry, research/education, government, the general public and environment sectors in order to increase regional competitiveness based on a regional background and the latest know-how of the RIS-RECOVER consortium. The innovative approach is based on the zero waste paradigm, which means that, once valuable raw materials like CRM and metals are extracted, the residues can be recycled for the construction sector. Such holistic eco-innovative approach of the extraction of critical raw materials and other metals and the beneficial use of residues from old environmental burdens provide a guarantee for the development of regional innovation scheme which is based on the optimal positioning of the management of old landfills and is the most viable from the economic, organizational, technological, environmental and social point of view.

The solution (technology)

The final output of the project will be a regional innovation scheme based on validated and fact-based data including a study of the potential economic, technological, organizational (legislative), environmental and social impacts of applying the innovative methodology of zero waste extraction of valuable materials in Macedonia. Once this will be developed it will be easy to transfer the validated approach to other parts of South Eastern Europe with similar geological, social, and economic background, as well as to other parts of Europe which will create a ripple effect of creating more sustainable mining and processing of primary and secondary raw materials in Europe and globally.

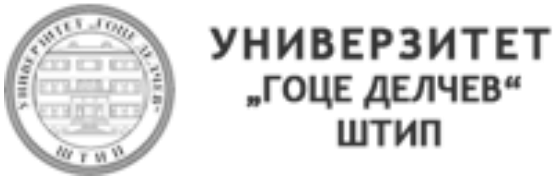
Partnership

- Slovenian National Building and Civil Engineering Institute (ZAG), Slovenia (Lead partner)

- Civil Engineering Institute Macedonia, Macedonia

- Geological Survey of Slovenia, (GeoZS), Slovenia

- Goce Delcev University Štip, Macedonia



- Montanuniversität Leoben, Austria

- Flemish Institute for Technological Research NV (VITO), Belgium